

This amendment is as required by the Examiner and corrects a minor typographical error present in the original filing,

In the Drawing:

Please amend the Drawings by substituting revised Figure 1, as enclosed herewith. The only change is to include the designation "Prior Art" on the drawing page. This is as required by the Examiner.

Comments

Rejections under 35 USC § 102 are unfounded

The Examiner has introduced new references in order to reject the claims as amended. It is alleged that these rejections are not well founded.

*Loposer*

The Examiner has rejected claims 1, 6-8 and 11 as being anticipated by the new reference of *Loposer* (US Patent No. 5,230,085). The Examiner quotes isolated portions of Applicant's claims and purports to find corresponding language in the *Loposer* specification. It is firmly asserted that such rejection is improper and not based on the claims presented.

In quoting the language of claim 1 for the purposes of comparing with *Loposer*, the Examiner omits much of the crucial limiting language of the claim, and improperly paraphrases another crucial element. Claim 1 specifically requires the structure to form a "cavity resonator", an aspect not found in *Loposer* and not addressed in the rejection. Further, the Examiner continues to equate [near field]

with quasi-static, non propagating waves, and to interpret such as being equivalent to those found in applications such as that proposed by *Loposer*. For these reasons, the analysis and rejection on the basis of *Loposer* is inappropriate and should be withdrawn.

The teaching of *Loposer* is directed at creating a large "transmission line" (column 2, line 15- column 3 line 2) structure utilizing a conductive shell of the vehicle (e.g. an airplane) as one of the conductors. By carefully matching impedance of the two conductors in the system, *Loposer* can create "standing waves" in the space intermediate the two conductors of the transmission line. However, standing waves are NOT quasi-static non-propagating waves. They are a form of propagating waveform which is temporarily balanced and effectively non-moving, so long as the balance is maintained. This is considerably different from quasi-static non-propagating, as required by the claim.

The teachings of *Loposer* require an internal conductor element (50) with the impedance being balanced at the end terminator (at the rear of the fuselage in the drawings) in order to operate. As has been shown in Applicant's prior responses, the present invention is NOT a transmission line situation. Applicant's system uses only a single conductor structure (the conductive array in the structure, all of which is subject to the same input), and there is no component corresponding to *Loposer's* inner conductor. The situations are drastically different.

As shown in prior arguments, transmission line structures are, by their nature, propagating. The disclosure of *Loposer* shows this by defining the waves 42 as being "propagating" (column 3, line 56 through column 4, line 11). The system claimed by Applicant is non-propagating.

The field in *Loposer* exists radially between the two conductors (the shell 48 and the inner conductor 50). This results in the waves being formed in relation to the zones specifically intermediate the two conductors which form the transmission line. This is very different from the cavity resonator" required in claim 1, where the cavity itself acts as the resonator. There is no need in Applicant's system for the center conductor, such as required by *Loposer*. The *Loposer* structure effectively defines a coaxial cable with isolated conductors, while Applicant defines a single conductive array which defines a cavity. The structures are conceptually very different and are certainly not congruent.

Accordingly, the rejections based on perceived anticipation by the teachings of *Loposer* are not well founded and should be withdrawn.

Applicant has attempted to explain further the meaning of the terms "quasi static" and "non-propagating" in the explanation presented in the most recent response, but the Examiner has chosen to discount this explanation because it involves wording not found in the original disclosure. However, some of the relevant wording does exist in the original, particularly "cut-off" and the limitations on the "grid size" (page 15 lines 12-19), so the explanations should not be discounted, even under the interpretation chosen by the Examiner.

Accordingly, the Examiner is again urged to review the explanations presented and to attempt to understand the present invention, and why the terminology used in the claims differentiates this from the prior art.

Mead

The Examiner has rejected claims 14 and 15 as being anticipated by *Mead* (US Patent No. 4,698,639). It is submitted that this rejection is not based on proper reading of the claims or of the teachings of *Mead*, and should be withdrawn.

Again with respect to claims 14 and 15 it is submitted that the Examiner has misread and misapplied the claim language. The teachings of *Mead* have essentially nothing to do with Applicant's claimed system and only a few accidentally overlapping instances of choices of wording could ever lead to a conclusion that they are in any way similar, much less the same. *Mead* teaches a meanderline polarizing structure for altering the polarization of energy passing therethrough. This is nothing at all like Applicant's system.

Applicant's claim is limited by including means for generating a quasi-static non-propagating field. No such capacity is taught by *Mead*. It is stretching interpretation to find that there is even a situation where *Mead* feeds a frequency signal into the grid array. Further, claim 14 is limited to a relationship between the grid size and the wavelength of the frequency signal. Even assuming that *Mead* is interpreted as feeding a signal into the grid, the size of the openings in the grid in *Mead* is large compared to the wavelengths utilized therein. Even though the grid size in *Mead* is very small on an absolute scale it is large compared to the wavelengths of the waves at the frequencies involved, where the wavelengths are so small that the grid size is four times the size. This is necessary to the function of the polarizer. It is also noted that the polarizer of *Mead* operates in the Gigahertz frequency range, orders of magnitude removed from Applicant's system.

It is asserted that there is little or no relationship between the teachings of *Mead* and the claims of Applicant and that the rejection is completely without foundation. Withdrawal of such rejection is requested.

Rejections under 35 USC § 103 are unfounded

The Examiner has further rejected all of the claims under the obviousness test of 35 USC § 103. Applicant again asserts that these rejections are without basis. Assuming that the base claims would have been rejected under the obviousness test, in light of the complete failure of the anticipation test, Applicant addresses this issue here.

For the reasons set forth above, the differences between the system claimed by Applicant and the teachings of the cited references are vastly different. They are not only different, but qualitatively different. The comparison is between apples and oranges, with there being some similarity (at least with respect to *Loposer*) where they can both be described as “fruit” (*Mead* is not even this close) but the similarities end there. The operations and structures are completely different (e.g. propagating vs. non-propagating, transmission line vs. cavity resonance) and there is no nexus or overlap. The concepts are fundamentally different. There is nothing in the teachings of the cited references which could be used to teach one skilled in the art and direct such person to the claimed structures and operations of Applicant. There is nothing in any of the cited references which deals with the way Applicant’s system works, with a single conductive array and long wavelengths in comparison thereto.

With respect to the rejection of dependent claims based on additional structures found in other references, or Official Notice, it is submitted that these rejections are moot in light of the allowability of the base claim.

For the above reasons, it is submitted that none of the present claims are appropriately subject to rejection under Section 103 and that the rejections should be withdrawn.

### **Conclusion**

In the amendment prior to filing the RCE in this matter Applicant endeavored to put this case into complete condition for allowance. It is asserted that the §102 and §103 rejections are completely unfounded on the prior art references cited. The rejections are based on incomplete readings of the claim language presented and on misreading and misconstruction of the prior art. Applicant therefore asks that the rejections be withdrawn and that allowance of all claims presently in the case now be granted.

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